CLAIMS

1. (Amended) In a Time Domain Downconversion Radar system having a system internal timing reference frequency, a wideband pulse transmitter, and a wideband receiver with a narrow interference bandwidth, so the Radar system is a self-contained detector, and a display update period between range sweeps, a device comprising a frequency variable oscillator for adjusting the radar's internal timing reference frequency, the oscillator being adapted to perform a frequency adjustment in said internal timing reference frequency during a plurality of the display update periods, the oscillator also being adapted for adjusting both the transmitter and receiver timing, so that both the transmitter and receiver clocks are synchronized, wherein said frequency adjustment improves the co-locatability of multiple radars commonly located in a region.

2 (Original) The device of claim 1 wherein said oscillator performs said adjustment during consecutive display update periods.

3. (Original) The device of claim 1 wherein said oscillator performs said adjustment only during some of said display update periods in a predefined pattern.

4. (Original) The device of claim 3 wherein said predefined pattern is every 2nd display update period.

5. (Original) The device of claim 1 wherein said predefined pattern is every 4th display update period.

6. (Original) The device of claim 1 wherein the oscillator performs said adjustment during randomly or semi randomly selected display update periods, such that multiple of said radars located in the same area have randomly distributed system timing references relative to one another so that any occurrence of overlapping system timing reference frequencies is occasional and always lasting for only a temporary period of time.

7. (Original) The device of claim 1 wherein the system timing reference frequency adjustment is predetermined and distributed over time so that multiple said transceivers commonly located in an area have predetermined distributed system timing reference frequency that is relative to some start time or other desired reference point for the purpose of synchronization of intended radars and interference exclusion of all other radar devices.

8. (Original) The device of claim 1 wherein said oscillator is selected from the group consisting of: a voltage controlled oscillator, a current controlled oscillator, and a digital controlled oscillator, and the device further comprises a control circuit.

9. (Original) The device of claim 1 wherein said oscillator is an electronically controlled oscillator and said device further comprises an encoded microprocessor control in the oscillator to affect said adjustment of the system timing reference frequency by control of a software program.

10. (Original) The device of claim 1 wherein said oscillator is an electronically controlled oscillator and said device comprises hardware timing circuitry to control the oscillator to affect the said adjustment of the system timing reference frequency.

11. (Original) The device of claim 1 wherein a first of said adjustments is in the range of 20 - 80 Hertz, and each subsequent adjustment is in the range of 20 - 80 Hertz.

12. (Original) The device of claim 1 wherein a first of said adjustments is either an increase or a decrease and each subsequent adjustment is either an increase or a decrease.

13. (Original) The device of claim 1 wherein said adjustments in said plurality of display updates periods alternative between increase or decrease adjustments.

14. (Amended) A method of controlling a Time Domain Downconversion Radar system having a system internal timing reference frequency, a wideband pulse transmitter, and a wideband receiver with a narrow interference bandwidth, so the Radar system is a self-contained detector, and a display update period between range sweeps, the method comprising:

providing a frequency variable oscillator;

causing said frequency variable oscillator to perform a frequency adjustment during a plurality of the display update periods[[,]] ;

causing said frequency variable oscillator to adjust both the transmitter and receiver timing so that both the transmitter and receiver clocks are synchronized, and so that the frequency adjustment improves the co-locatability of multiple radars commonly located in a region.

15. (Original) The method of claim 1 wherein said oscillator performs said adjustment during consecutive display update periods.

16. (Original) The method of claim 1 wherein said oscillator performs said adjustment only during some of said display update periods in a predefined pattern.

17. (Original) The method of claim 3 wherein said predefined pattern is every 2nd display update period.

18. (Original) The method of claim 1 wherein said predefined pattern is every 4th display update period.

19. (Original) The method of claim 1 wherein the oscillator performs said adjustment during randomly or semi randomly selected display update periods, such that multiple of said radars located in the same area have randomly distributed system timing references relative to one another so that any occurrence of overlapping system timing reference frequencies is occasional and always lasting for only a temporary period of time.

20. (Original) The method of claim 1 wherein the system timing reference frequency adjustment is predetermined and distributed over time so that multiple said transceivers commonly located in an area have predetermined distributed system timing reference frequency that is relative to some start time or other desired reference point for the purpose of synchronization of intended radars and interference exclusion of all other radar devices.

21. (Original) The method of claim 1 wherein said oscillator is selected from the group consisting of: a voltage controlled oscillator, a current controlled oscillator, and a digital controlled oscillator, and a control circuit controls said oscillator.

22. (Original) The method of claim 1 wherein said oscillator is an electronically controlled oscillator and the method further comprising an encoded microprocessor control in the oscillator that affects said adjustment of the system timing reference frequency by control of a software program.

23. (Original) The method of claim 1 wherein said oscillator is an electronically controlled oscillator and said device comprises hardware timing circuitry to control the oscillator to affect the said adjustment of the system timing reference frequency.

24. (Original) The method of claim 1 wherein a first of said adjustments is in the range of 20 - 80 Hertz, and each subsequent adjustment is in the range of 20 - 80 Hertz.

25. (Original) The method of claim 1 wherein a first of said adjustments is either an increase or a decrease and each subsequent adjustment is either an increase or a decrease.

26. (Original) The method of claim 1 wherein said adjustments in said plurality of display updates periods alternative between increase or decrease adjustments.